Trends & Challenges in Architecture & Engineering

International report 2014
Executive Summary

A benchmarking report to power growth

Informed by the responses from the leaders and decision makers of hundreds of firms across Europe, Australia, New Zealand and South Africa, this report provides a window into the performance metrics, views and expectations of the architect and engineering (A&E) industry 2014.

The findings are based on the outcome of a survey that was commissioned by Deltek and Silversoft and carried out by Ipsos Synovate, which was intended to get to the very heart of the key issues, experiences and expectations from the very firms that make up this visionary and forever-changing sector.

For you and other professionals in the industry, this report not only offers a managerial tool that will help with decision making and strategy development, it will also establish useful benchmarks from which you can rate your operation’s performance and add meaning to your own definition of ‘success’.

The role of benchmarking

Why is benchmarking so important in business? Without coherent industry benchmarks in place, you may not be aware of where improvements can be made within your own firm. And without access to industry metrics and statistics, you may be lacking the tools you need to help take your firm to its full potential.

Improved visibility through knowledge, insight and statistic sharing plays an important part in demonstrating what can be professionally achieved. It also highlights areas where improvements could be made because - with benchmarking - comes the power to strengthen visibility through sharing knowledge, insight and statistics. This all leads to greater transparency, which plays a vital role in setting the goals and objectives, and making decisions for the future.
Insight for improvement

What, for instance, does it mean to your firm to learn that, on average, 26% of billable hours in the architect and engineering industry are written off and wasted? In South Africa, the average is even higher at 35%. Is it a fact that resonates with your own business experience and will it inspire an urgent need to improve back office processes? Or does it prove that your firm is performing well when it comes to maximising its revenue through accurate time recording and billing?

Reassuring or disconcerting as it may be, comparing your firm’s performance against industry norms makes it possible for companies to identify potential reasons for operational results and understand more about what is going wrong, and what is working right within their organisations.

Focused on the deeper, operational processes of architecture and engineering firms, this report should contribute to your understanding of what is required for future growth and development so your firm can continue to thrive in this vibrant industry.

Growth and optimism

So what in particular has the 2014 research unveiled? Compared to the reports from previous years it is evident this year that the majority of architect and engineering firms have growth on their minds and are more optimistic about their prospects in general. Many professionals in the industry believe they are already on a path to brighter times and this is made clear from the expected level of market development reported.

Most firms expect some level of expansion in 2014, with many seeming to have put the economic pressures of previous years behind them. The ‘cautious optimism’ that was reported in 2013 has since changed to a level of considerable confidence.

33% of decision makers expect a market growth of between 1 - 5% in 2014

In South Africa market growth is expected to be a steady 7%
It is a concern that the research shows firms across all countries are wasting on average 26% of billable hours.

**Acquisition vs organic**

This growth will, according to the research, predominantly happen organically as opposed to gained through acquisition. That being said, acquisition activity will no doubt continue to be an attractive prospect for firms looking to combine forces for greater strength and prosperity, and as they look for potential alliances to broaden markets and/or geographical reach.

The survey results reveal architecture and engineering firms are becoming increasingly concerned about hiring the right people and attracting the best talent to keep up with the level of expansion they expect. Firms will undoubtedly need to look for ways of attracting and retaining young professionals to meet the growing demand for employees.

68% of South African firms expect organic growth, whilst 32% will grow through acquisition

**Billable time**

Both organic and acquisitioned growth relies on investment, which relies on raising finance, so firms should be focusing on maximising their working capital through greater efficiency to optimise billable time.

However, one of the most startling statistics that came out of the research is that almost a quarter of billable hours in architect and engineering firms are not financially retrieved from the client.

When it comes to fixed price projects the opportunity is there for firms to gain financially through a smooth and timely delivery. But without maintaining total visibility and control, return can also be seriously jeopardised. Without the visibility to know how much time and money it takes to properly resource a project, it may be difficult to keep things on track. The research shows that architect and engineering firms are indeed losing out on profit when delivering to a fixed price agreement.

**Deltek’s point of view:**

Investing in technology that automates invoicing, time keeping and project budget management could have a significant, immediate and positive impact on the profitability of an organisation.
Better return
With over-servicing and under-billing obviously a problem for many firms, it’s little wonder project profitability is seen as one of the industry’s biggest issues. As a result, decision makers are looking for better insight into a number of areas that effect revenue.

Improving visibility is, according to the business leaders interviewed, vital to their firm’s future success and leaders agree on the areas of their business that would most benefit from better transparency. For instance, when it comes to winning new business, over half of leaders surveyed think their firms would be more successful if they had the ability to identify the most profitable types of work, customers and market segments.

Technological future
Professional insight can be vastly improved through technological investment and from the report, it’s clear to see that companies expect technology to play a more dominant part in managing projects in the future. Many more firms are preparing to invest in technology in 2014 compared to 2013 and, in the long-term, this should have a positive impact on the architect and engineering industry as well as the businesses themselves.

Deltek’s point of view:
Technology not only helps address trends including economic growth, consolidation, shifting demographics and globalisation through tools that promote collaboration, visibility, and consistency, it also plays a major part in the running of day-to-day internal processes that impact on the revenue and efficiency of the firms deploying it.
“Deltek’s latest findings build on the growing evidence that the outlook for 2014/15 is one of improving prospects. The engineering and infrastructure community is uniquely placed as a sector to not only drive short term growth through job creation, but also embed longer term benefits, such as better access to markets, into economies.

The challenge for the sector over the next few years will be one of rebuilding its scale to meet the scale of the truly global needs. As part of this, it is crucial that more young professionals are encouraged to take up careers in the engineering sector.”

Nelson Ogunshakin OBE
Chief Executive and Board Member,
Association for Consultancy and Engineering (ACE)

Sensible action

With so many firms failing to invoice a proportion of their billable time and with fixed price projects being routinely over-serviced, it would seem sensible for firms to put their technological investment towards improving back office administration. However, the survey shows that this is not the intention of many business leaders.

Back office and business reporting will receive little or no investment from the firms surveyed in the next eighteen months, it will therefore be interesting to find out if firms manage to find ways of improving billable time rates between now and the time next year’s survey results are released.

Customer satisfaction

Finally, decision makers are willing to invest in improving customer satisfaction levels. Well over half of those interviewed confirm they will invest in client surveys and communication to ensure better expectation setting and issue resolution. This is good news for an industry that is banking on improving business relationships with clients from both the public and private sector, and the firms that intend to compete by nurturing those all-important long-term client/supplier bonds.

Nurturing long term relationships is seen as the most important success factor for engineering firms in South Africa.

Deltek’s point of view:

The CSIMarket.com ‘Profitability Ratios’ shows that over the last five quarters the professional services industry has had an operating margin of approximately 20%. However, The ACE 2013 Benchmarking Report shows that the average operating margin in the Consulting Engineering sector has declined from 7% in 2012 to 6% in 2013. Based on these statistics it is clear that you don’t have a lot of room for project mistakes if you are in the consulting engineering business.
Introduction

In January 2014, 235 decision makers in Germany, Austria, Switzerland (the DACH region) Netherlands, Belgium, Denmark, Norway, Sweden, the United Kingdom, France, South Africa, Australia and New Zealand were surveyed by telephone about their internal processes and views on the industry they operate in. The research was commissioned by Deltek and Silversoft and carried out by Ipsos Synovate.

The target group for this study was decision makers within engineering and - for the first time – those also from architecture companies. It provides insight into the opinion of established engineering and architecture firms in the global market. Its aim is to create a relevant vision for professionals who are looking to identify regional and operational trends, and also provides findings from which firms can benchmark their own progress.

This is the third engineering report and - where possible - results from this year are compared with those in previous years and this is the second year South Africa has been included in the report.
Results and findings

1.0 Project metrics:

Billability

In the 2014 architect and engineering survey, decision makers were asked about their average utilisation rates and billability and the percent of billable hours for all staff in 2013. The survey reveals that 74% of billable hours are invoiced/financially retrieved. This still means that over a quarter of billable time is being lost which directly impacts on revenue.

Norway bills the most hours with 50% of respondents reporting rates of 81% or more.

Whilst over 50% South African respondents reported rates of over 71%
**Fixed price vs ‘time and materials’**

Agreeing fixed price contracts provides an effective way for clients to control their costs and compare the competitiveness of tenders from their suppliers. As a result, they are becoming more popular than ‘time and materials’ projects.

The UK undertakes the most fixed price projects with 62% of firms reporting three quarters of projects are fixed price followed by France with 57% of firms reporting three quarters of their projects are fixed price. Sweden was amongst the regions undertaking the fewest fixed price project, with almost half of firms (47%) claiming less than a quarter of their projects were fixed price.

“What is your percentage split of your ‘Time and Material’ projects versus ‘Fixed-Price projects’?”

- 62% (UK)
- 57% (France)
- 47% (Sweden)
- 55% (South Africa)
Billability and fixed price versus ‘time and materials’

But are fixed price projects good news for the architect and engineering suppliers? There is no clear answer. The upside of fixed price projects means there is always the opportunity to maximise profitability if a firm is disciplined in exercising sound project control and carry out exact estimation and planning. On the other hand, should agreed budgets and timescales escalate, firms risk losing a considerable amount of money.

Deltek’s point of view

A firm needs to be exceptionally good at accurately scoping out a project from the beginning and staying within the agreed timeframe and budget, for fixed price projects to be both competitive and profitable.

Unbilled hours in your total amount of ‘Time and Materials’ projects (in 2013)

- 21%

Unbilled hours in your total amount of ‘Time and Materials’ projects (in 2013) in South Africa.

- 22%

Unbilled hours in your total amount of ‘Fixed price projects’ (in 2013)

- 27%

Unbilled hours in your total amount of ‘Fixed price projects in South Africa.

- 35%
Organic growth versus acquisition:

Most firms see their growth happening organically, but why is this the case?

“What is your expectation of organic versus acquisition growth in 2014? Please rate the percentage of your combined growth per organic versus by acquisition.”

Overall
- 75% organic growth
- 19% growth by acquisition

South Africa
- 68% organic growth
- 32% growth by acquisition

2.0 Business Trends:

Market development

Engineering and architect firms are optimistic for the future. In 2013’s report, Ipsos and Deltek claimed the engineering industry was ‘cautiously optimistic’. The mood has since improved.

2013 results
- 66% expected growth
- 18% expected stagnate
- 16% expected fall

2014 overall results
- 72% expected growth
- 13% expected stagnate
- 14% expected fall

2014 SA Results
- 73% expected growth
- 13% expected stagnate
- 15% expected fall

Which regions are the most confident?
- As in previous years, Denmark is the most optimistic with 90% of Danish firms expecting growth in 2014.
- Firms in New Zealand are also optimistic with 82% of firms expecting growth – mainly 1-5%.
- 25% of South African firms predict their businesses will grow by a whopping 15% this year

...and who are the least?
- The least optimistic firms about their market development in 2014 reside in the Netherlands, from which only 50% of respondents expect any kind of growth.
- German engineering firms expected the smallest amount of growth with 52% expecting marginal development of 1-5%.
3.0 Threats

When looking into the future, what concerns architect and engineering firms the most? The survey shows the landscape has not changed significantly since previous year’s results, with the main threats taking the form of pricing and staffing.

**Price competition**

In the 2013 survey, 52% of firms saw price competition as their greatest threat and it was second on the list beaten only by finding and retaining good staff.

56% of South African firms saw late payment behavior as the second biggest threat.

**Finding and retaining good staff**

UK firms find finding and retaining good staff as the biggest threat with 77% of firms concerned. Danish firms are less so with finding and retaining good staff concerning only 30% of firms and in South Africa 38% of Firms.

**Price competition from low wage countries**

Price competition from low wage countries is the least concern with 25% of countries seeing this as a threat.
4.0 Business issues, operational insight and success factors

Decision makers were asked to rank six perceived issues that had emerged in previous years, in terms of importance.

What’s interesting is that despite firms managing to invoice for an average of only 74% of billable hours, ‘staff utilisation’ isn’t a main concern. Across all countries, it was the fourth most important business issue, followed by back-office efficiency (fifth on the list) and business reporting (sixth).

“Ranking of critical business issues in terms of importance, where 1 is the most important and 6 is the least important.”

<table>
<thead>
<tr>
<th>Issue</th>
<th>All Countries</th>
<th>SA</th>
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</thead>
<tbody>
<tr>
<td>1. Winning new projects (new business acquisition)</td>
<td>41%</td>
<td>38%</td>
</tr>
<tr>
<td>2. Customer satisfaction</td>
<td>36%</td>
<td>40%</td>
</tr>
<tr>
<td>3. Project profitability</td>
<td>22%</td>
<td>12%</td>
</tr>
<tr>
<td>4. Staff utilisation/billability</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>5. Back-office efficiency</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>6. Business reporting</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Deltek’s point of view

Building a bond with customers is especially important at the pre-contract phase where a good relationship with clients stands firms in good stead to influence the tender process and help win that all important new business. During project execution, best practice means providing timely delivery, meeting expectations and building trust through effective leadership.

Winning new business

When it comes to winning new business, 57% of firms (80% in South Africa) want a better view on the most profitable types of work while 54% want insight into the most profitable customers and 51% want insight into the most profitable market segments.

“On which of the following aspects of winning new projects would you like to have a better view within your organisation?”

On which of the following aspects of winning new projects would you like to have a better view of within your organisation?

- Most profitable types of work/specialism
- Most profitable customers
- Most profitable market segments
- Up-to-date overview of the sales pipeline
- Sales costs per project
- Most successful marketing campaigns
- None of the above
- Don’t know

Base: all decision makers who see ‘winning new projects’ as one of the three most important business issues South Africa (n=40), Total of all countries (n=193)
Customer satisfaction

When it comes to customer satisfaction, 76% of firms see improving long-term relationships with customers as most important; with better communication seen as more important for 64%. There is not much of a margin between the following three: improving quality of service (62%), increasing understanding of clients (58%) and ensuring on-time delivery (53%). Building long term relationships with clients is top of the improvement hit list for 76%.
**Profitability**

Where could firms use better visibility to improve their profitability? Opinion was quite equally split between improving visibility of project and resource planning (58%), of budgeted versus actual costs per project (57%), into profitability per project (54%) and into poorly performing projects (51%).

"On which of the following aspects of project profitability would you like to have a better view of within your organisation?"

- Visibility of profitability per project: 82%
- Visibility of budgeted versus actual costs per project: 79%
- Visibility of project and resource planning: 76%
- Visibility of poorly performing projects: 64%
- Visibility of the trend towards “fixed price” projects: 46%
- None of the above: 3%
- Don’t know: 0%

Base: all decision makers who see ‘project profitability’ as one of the three most important business issues South Africa (n=33), Total of all countries (n=175)
D. Market outlook

1.0 Success factors

Having the right people and attracting talent is the most important business success factor for firms - especially in Denmark, where 95% chose it as the number one factor. It is an interesting statistic when considering Danish firms expect much higher growth than average in 2014.

Long-term relationships with clients are also seen as crucial. 70% of those interviewed put building bonds with customers high on the list for success. DACH firms see it as most important (79%) and Norwegian firms the least (40%).
14% of firms in 2013 did not plan to make any kind of technological investment in technology compared with just 7% this year.

2.0 Investments and technology

The majority of architecture and engineering companies across all countries are intending to invest in improving client satisfaction. This is a sensible decision as up- and cross-sell to existing clients makes better financial sense over attracting, nurturing and winning brand new business.

Countries that saw client relationships as most important seem to also be willing to follow through by investing in systems to improve it in 2014. 87% of firms in Australia and New Zealand want to invest in client satisfaction, with 78% voting it as an important success factor.

Firms are willing to invest in technology in the next eighteen months, with document management coming out on top as the most likely investment for companies.

“Do you intend to invest in improving your project delivery processes in the following areas?”

- **Client Satisfaction:**
  - Client surveys and communication to ensure better expectation setting and issue resolution
  - Base: all decision makers within (mid-size and large) engineering/architecture companies South Africa (n=50), Total of all countries (n=235)
  - 24% Yes - South Africa 2014
  - 34% Yes - Total of all countries 2014
  - 72% No

- **Team Collaboration:**
  - Consistent planning process to improve collaboration of global project teams.
  - 38% Yes - South Africa 2014
  - 41% Yes - Total of all countries 2014
  - 60% No

- **Operations:**
  - Developing standard monitoring processes utilizing consistent key performance indicators such as net multiplier, project profitability, percent complete reporting
  - 36% Yes - South Africa 2014
  - 41% Yes - Total of all countries 2014
  - 56% No

- **Project Manager:**
  - Clearly defined role for project managers within the organisation
  - 48% Yes - South Africa 2014
  - 41% Yes - Total of all countries 2014
  - 52% No
  - 58% No
Business leaders were asked their opinions on how projects in the future will differ from today’s projects. 63% of firms - mainly those in Scandinavia and UK - expected technology will play a more important part in projects of tomorrow. French firms were least convinced about technology’s part in future projects.

Firms were also given the option of selecting ‘moving software applications to the cloud’ as a new option for this year’s survey. 30% claimed they were intending on moving some applications over to the cloud in the next eighteen months.

“Do not expect to invest in technology”

Projects in the future will also be more full service, according to 54% of respondents, and will cross more borders as specified by 53%.

“How does a project in the future differ from today’s projects”
Conclusion

Ipsos Synovate’s research shows architecture and engineering firms have put the recession years behind them and that the industry is feeling both optimistic and confident about growth in 2014. It appears from the intended level of development and investment that the industry is on the brink of an exciting new age of technological change and progression. There is an evident willingness to embrace new technologies such as cloud based systems that will undoubtedly provide the foundation for realising the long-term aspirations and plans of the firms interviewed.

Investing for growth

Growth will be mainly organic and come from future technological investments, including document management and systems to improve the firm’s ability to win new business and improve customer satisfaction. Both of these business issues are seen as a high priority for firms moving forwards.

Winning new business is a top priority

The top three business issues for firms across all regions are the same with winning new projects providing the most pressing concern. Firms want to tackle the challenge of winning new projects by improving insight and visibility and focusing on attracting the most profitable types of work, customers and market segments.

Inconsistencies

The future intentions of the architect and engineering leaders interviewed reveals some discrepancies between the pressing business issues faced by firms and their intended investments, especially when it comes to improving back-office processes. There is still a large margin of improvement that can be made for many firms when it comes to billing, with few firms willing to acknowledge this as an area that needs urgent improvements. Fixed price projects especially return the big losses.

Benchmarking tool

With some Scandinavian firms outperforming those in France and Germany across many operational areas including billing and expected growth, this 2014 study will undoubtedly provide a useful benchmarking tool for firms to consider their own objectives and goals. By continuing to collating industry data and deliver it in a coherent and logical way, studies such as Deltek’s annual architect and engineering report will help firms compare their own business processes and performances to ‘industry best’ and provide these firms with the guidance they need to raise the bar in terms of operational processes and service.
Appendix

Survey background

In a bid to reveal what action leaders are taking to stay competitive and where the next opportunities are likely to be, Deltek has provided research into the architecture and engineering marketplace for over thirty years. In 2012, the company expanded its survey to include the European architecture and engineering markets.

Design

235 telephone interviews were carried out among senior level employees in engineering and architecture firms across 13 countries: Germany, Austria, Switzerland (the DACH region) Netherlands, Belgium, Denmark, Norway, Sweden, the United Kingdom, France, South Africa and - for the first time - the 2014 report has included Australia and New Zealand to its regional list.

Questionnaire

The questionnaire covers the following subjects:

- Firm information
- Key Project Metrics
- Business Trends
- Market Outlook

Background information

CSIMarket.com: Profitability Ratio

‘ACE Benchmarking Report. Industry Overview 2013’, report produced by Association for Consultancy and Engineering and the Centre for InterFirm Comparison
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